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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/704,991	11/02/2000	Edward L. Schwartz	074451.P042X2	7119

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EXAMINER

WU, JINGGE

ART UNIT

PAPER NUMBER

2623

DATE MAILED: 11/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/704,991

Applicant(s)

SCHWARTZ ET AL.

Examiner

Jingge Wu

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6,33-40,48-52 and 80-86 is/are pending in the application.
- 4a) Of the above claim(s) 33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-6,34-40,48-52 and 80-86 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5. 6) ☐ Other: _____

DETAILED ACTION

Applicant's election without traverse of species III in paper No. 10 is acknowledged. Accordingly, Claims 1-6, 34-40, 48-52, 80-86 are now presented for prosecution. Claim 33 is withdrawn because it belongs to species IV.

Information Disclosure Statement

The information disclosure statements filed on October 28 and 29, 2002, and January 27, 2003 fail to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double

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patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1, 34, 48, and 80 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, and 8 of U.S. Patent No. 5,966,465 to Keith et al. in view of GB 2341035 to Schwartz.

Claims 1, 8, and 31 of U.S. Patent No. 5,966,465 has taught every element, e.g. wavelet, context model, entropy encoder etc. but does not specifically mention coding the important data without buffering.

Schwartz, in an analogous environment, discloses "sending the most important data immediately to a context model for coding... storing less important data for coding after the most important data" (abstract).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the scheme of Schwartz in the method of Keith in order to increase coding efficiency and reduce the memory needed.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

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(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6208693 to Chen.

As to the computer and the output device, these elements have been addressed with regard to claim 1 above.

Claims 5, 7, and 8 are the corresponding method claims to claims 1, 3, and 4 respectively. The discussion are addressed with regard to claims 1, 3, and 4

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 48-52, 80-86 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5442458 to Rabbani et al. in view of GB 2341035 to Schwartz.

As to claim 48, Rabbani discloses a system comprising:

a context model (fig. 2, col. 5 lines 40-68);

a probability estimation machine coupled to the context model and a bit generator (coder) coupled to the probability estimation machine (fig. 3 and 5, col. 6 lines 1-65).

Rabbani does not teach rate control by determining the average codeword length.

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Schwartz, in an analogous environment, teaches the feature (page 128, lines 5-6, note that this specific feature seems to be a new feature that is not in the parent cases, thus, the priority date for this feature is 11/2/2000 and applicant has the burden to prove that this feature contains in the parent cases)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the scheme of Schwartz in the system of Rabbani include in order to perform faster compression and reduce memory needed (Schwartz, page 5).

As to claims 49-52, Schwartz further discloses adjusting quantization, signal block to signed a decoder regarding a new quantization level, concatenating onto the compressed bit stream to indicate to the decoder a new level of quantization, and storing a indication of quantization level (page 128).

As to claim 80-84, all the limitations are addressed with regard to claim 48-52.

As to claims 85-86, Schwartz further discloses encoding and storing bit planes of wavelet transformed pixels (page 116), and encoding the most important data of coefficients immediately and then coding the less important data (abstract).

Claims 1-6 and 34-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of the article "Image compression using the spatial-orientation tree" to Said et al. and Rabbani et al., further in view of Schwartz.

As to claims 1-2, Said discloses a system comprising:

a buffer (inherent for storing a band of pixels);

a wavelet transform unit having an input coupled to the buffer to perform a reversible wavelet transform on the pixels stored in the buffer and to generate coefficients at an output (page 279-280);

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a coder coupled to the wavelet transform unit to code bit planes (subbands) of wavelet transformed pixels from the wavelet transform unit and stored the bitplanes in the buffer (fig. 1 and 3, page 279-280); and parallel entropy coder coding the important data and less important data in order of importance(fig. 1, page 280-281).

Said does not explicitly mention context model.

Rabbani, in an analogous environment, teaches the feature 9 (fig. 2, col. 5 lines 40-68).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the scheme of Rabbani in the system of Said include in order to reduce memory needed and the amount transmission time (Rabbani, col. 1 lines 13-35 and col. 4 lines 36-66).

Said and Rabbani does not explicitly mention coding the important data of the coefficients without buffering and less important data is buffered.

Schwartz, in an analogous environment, teaches the feature (abstract and page 112, note that this specific feature seems to be a new feature that is not in the parent cases, thus, the priority date for this feature is 11/2/2000 and applicant has the burden to prove that this feature contains in the parent cases).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the scheme of Schwartz in the system of Said and Rabbani include in order to perform faster compression and reduce memory needed (Schwartz, page 5).

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As to claims 3-6, Schwartz further discloses high speed parallel coder, QM-coder, finite state machine coder, and coded data interface for color space conversion(page 93-94 and 102-103).

As to claims 34-40, the claims are the corresponding IC claims to claims 1-6, the discussions are addressed with regard to claims 1-6.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 5537493 to Wilkinson, US 5563960 to Shapiro, and US . discloses a method for obtaining object data to reconstruct the original image.

Contact Information

Any inquiry concerning this communication or earlier communications should be directed to Jingge Wu whose telephone number is (703) 308-9588. He can normally be reached Monday through Thursday from 8:00 am to 5:30 pm. The examiner can be also reached on second alternate Fridays.

Any inquiry of a general nature or relating to the status of this application should be directed to TC customer service whose telephone number is (703) 306-0377.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Amelia Au, can be reached at (703) 308-6604.

The Working Group Fax number is (703) 872-9314.

Jingge Wu

Primary Patent Examiner